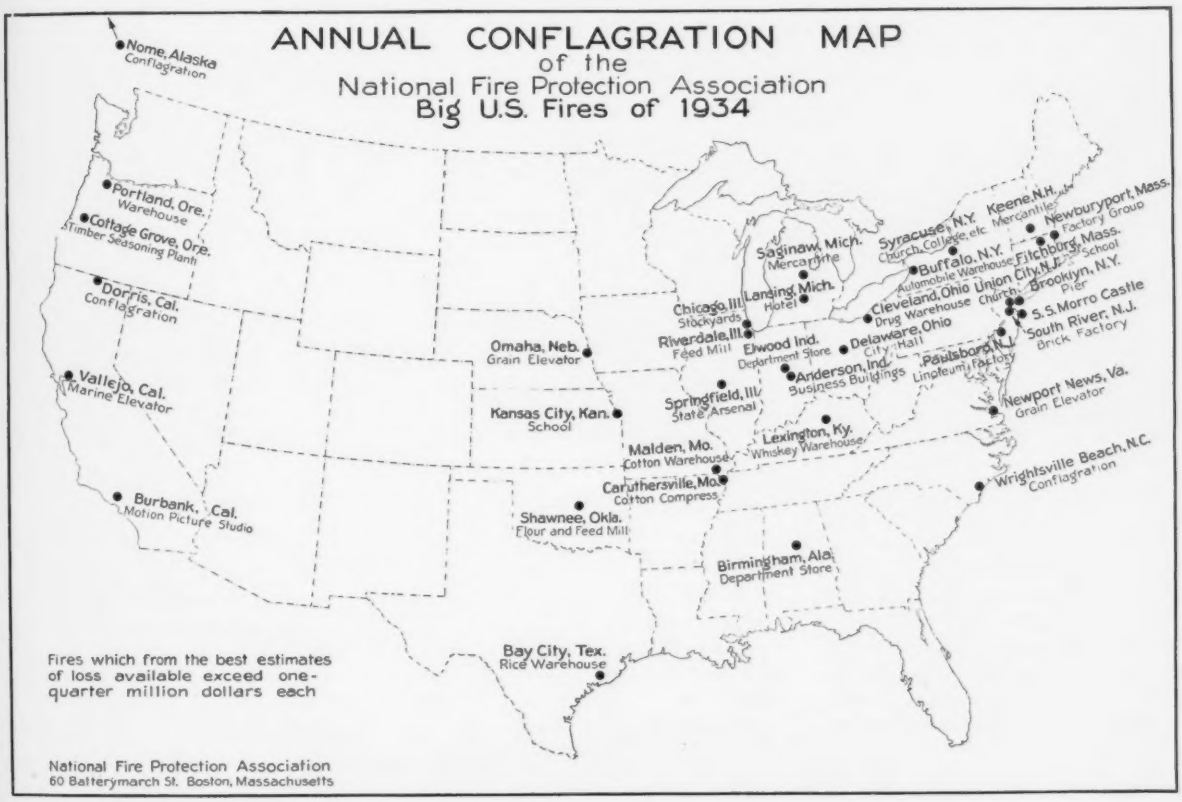
Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section of the National Fire Protection Association

Volume 2, Number 2 **BOSTON, MASSACHUSETTS** **February, 1935**


ANNUAL CONFLAGRATION MAP
of the
National Fire Protection Association
Big U.S. Fires of 1934
Nome, Alaska Conflagration
Portland, Ore. Warehouse
Cottage Grove, Ore. Timber Seasoning Plant
Dorris, Cal. Conflagration
Vallejo, Cal. Marine Elevator
Burbank, Cal. Motion Picture Studio
Omaha, Neb. Grain Elevator
Kansas City, Kan. School
Springfield, Ill. State Arsenal
Chicago, Ill. Stockyards
Riverdale, Ill. Feed Mill
Saginaw, Mich. Mercantile
Lansing, Mich. Hotel
Elwood Ind. Department Store
Delaware, Ohio City Hall
Cleveland, Ohio Drug Warehouse
Syracuse, N.Y. Church, College, etc.
Buffalo, N.Y. Automobile Warehouse
Keene, N.H. Mercantile
Newburyport, Mass. Factory Group
Fitchburg, Mass. School
Union City, N.J. Church
Brooklyn, N.Y. Pier
S.S. Morro Castle
South River, N.J. Brick Factory
Paulsboro, N.J. Linoleum Factory
Anderson, Ind. Business Buildings
Newport News, Va. Grain Elevator
Lexington, Ky. Whiskey Warehouse
Malden, Mo. Cotton Warehouse
Caruthersville, Mo. Cotton Compress
Shawnee, Okla. Flour and Feed Mill
Birmingham, Ala. Department Store
Wrightsville Beach, N.C. Conflagration
Bay City, Tex. Rice Warehouse
Fires which from the best estimates of loss available exceed one-quarter million dollars each
National Fire Protection Association
60 Batterymarch St. Boston, Massachusetts

Big Fires of 1934

While Losses Were Lowest in Years, the Number of Large Fires Increased—Many Fought by Volunteers

PRELIMINARY figures indicate that U. S. fire losses for 1934 will be $276,000,000, an amount $41,000,000 less than 1933. Canadian losses will be $27,000,000, $6,000,000 less than the previous year. Both figures are the lowest in many years. Losses during the last ten years have averaged $468,000,000 for the U. S. and $40,000,000 for Canada annually.

The N.F.P.A. Department of Fire Record has just completed its tabulation of the largest fires of the year in the United States and Canada. The United States fires are shown on the Annual Conflagration Map above. They include 34 fires the loss in which exceeded one quarter million dollars each, as compared to 22 such fires last year. In Canada only one fire in this class was reported, a lumber yard at Dalton, Ontario, in which a loss of $480,000 was sustained.

The largest loss of life occurred in the *Morro Castle* steamship fire reported in the October, 1934, issue of VOLUNTEER FIREMEN. This caused property loss of over $4,000,000 in addition to the 125 lives lost.

Volunteer departments played an

Chicago Tribune

The biggest fire of 1934. The Chicago Stockyard Conflagration of May 10 which threatened to assume the proportions of the city's historic disaster of 1871. In this fire one man and 800 cattle lost their lives. The loss was estimated at $5,000,000.

important part in the fire fighting activities at many of these fires. Nearly half of the fires occurred in cities of less than 17,000 population, where volunteer or small part-paid departments form the principal public fire protection. In three cases the fire fighting jobs were wholly volunteer parties.

One of the notable fires of this sort was at Wrightsville Beach, North Carolina, where 103 wooden buildings, mostly summer cottages with wood shingle roofs, were destroyed. Another was at Cottage Grove, Oregon, where a large two-story wood building in which bridge timbers and planks were stored for seasoning and also 13 railroad cars burned. A third fire handled solely by volunteers was at Nome, Alaska. There a conflagration started from a spark on the roof of a hotel and destroyed a large part of the town.

The fire that destroyed a large rice mill at Bay City, Texas, presented an example of an interesting situation. The fire department of Bay City is volunteer. A few years ago it sent assistance to a similar rice mill fire at El Campo, a neighboring town, but was unable to help because the hydrant and hose couplings were not standard in both towns. Since that time every community in Texas has adopted the N.F.P.A. National Standard Hose Coupling Thread, and El Campo was able to give valuable assistance in fighting the recent disastrous fire in Bay City.

Volunteers had to bear the principal load of fighting the million-dollar fire in a linoleum factory in Paulsboro, N. J., a picture of which appeared in the April, 1934, issue of VOLUNTEER FIREMEN. Another important fire was the conflagration at Dorris, Calif., which destroyed a box factory, 50 dwellings, a movie house, eight small stores, an automobile service station and a tourist camp. Embers carried by the wind from the burning factory ignited many wood shingle roofs and caused the sweeping extent of the fire.

The factors leading to the large losses in these fires have been analyzed by the N.F.P.A. Department of Fire Record. These studies show that the principal reason for the large losses, as might be expected, was the fact that there was a large amount of material to burn in one place. In the case of lumber yards, oil storages and wood buildings of large area, this is readily understandable. In many other cases large buildings were destroyed because their arrangement proved to be such that a fire could spread readily from floor to floor and from one end of the building to the other. Inferior construction explains these in part and the presence of unprotected vertical opening explains most of the rest. There were also a number of cases where the lack of protection against exposures, such as fire shutters and fire doors, enabled the fire to spread from one building to adjoining ones.

Nineteen of the 34 large loss fires occurred in the period from 6 o'clock in the evening to 6 o'clock in the morning, and nearly half of the fires

occurred on Saturday or Sunday when business activity was suspended. In only ten cases did the fires occur in normal working hours. This may explain in part at least the fact that in a large proportion of the cases the fire had made considerable headway when it was discovered, and also that there was a delay in sounding the alarm.

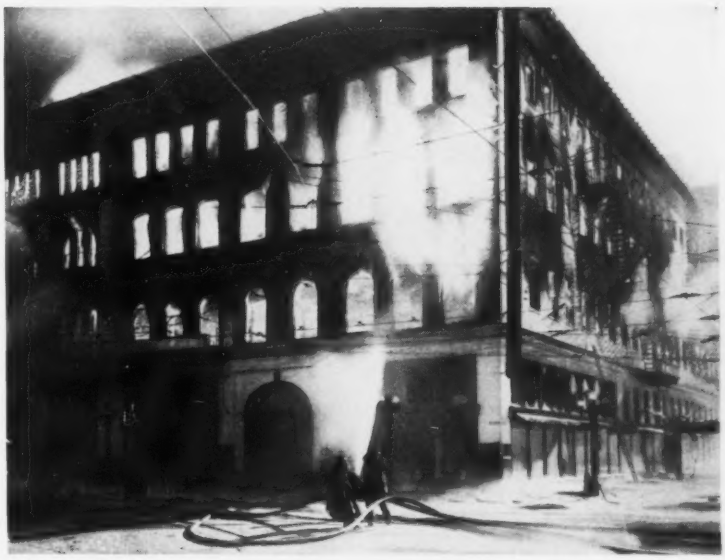
In a few cases, ineffective fire fighting contributed to the loss, but in view of the other factors which the analysis brings to light, it is apparent that the conditions in most of the fires were those where the public fire fighting facilities did not have an even break. That they were in any measure able to restrict and limit the seriousness of the disaster is certainly to their credit. The lesson of these fires is, that buildings where the construction and arrangement is such that fire will spread rapidly unless immediately attacked, require strong private fire protection such as automatic sprinklers. In this connection it is significant that in 6 cases the fire was burning in places inaccessible to hose streams.

□ □ □ □ □

Plans of Model House of Morristown, N. J., Department

Readers of VOLUNTEER FIREMEN may recall the photographs of the model house constructed by the Morris Township Volunteer Fire Department of Morristown, N. J. (member N.F.P.A.) which appeared in the October, 1934, issue. This model shows both safe and unsafe types of construction and is used by that department in trying to secure the adoption of a building code, in studying the spread of fires, fire fighting operations and other kinds of educational work within the department and in the township.

Plans showing every construction detail of the house have been drawn up by Alex Green, Assistant Chief of the department. They consist of a set of three blueprints 24 x 40 inches in size. Chief Green has offered to furnish a set to any other fire department for five dollars.



International
The biggest department store fire in years occurred in Birmingham, Alabama, March 10, 1934. The loss was $1,500,000.

A returning occupancy hazard—whiskey warehouses. The ruins of a plant just outside Lexington, Kentucky, which burned April 28, 1934, with a loss of 2½ million dollars.

Does Your Town Have A Real Fire Department?

In a recent bulletin the Industrial Commission of Wisconsin makes a plea for citizens in small towns to get behind their fire department by equipping it generously and encouraging its members instead of disheartening them, and to take an active interest in the comforts and welfare of the volunteer firemen.

The bulletin asks the following questions for the serious consideration of every person in every town, village and hamlet:

"Is your fire department equipment properly housed? Does it receive good care to keep it in good operative condition at all times? Has your town an efficient fire alarm system to call out the firemen without undue loss of time? Is the department properly equipped to meet the demands made upon it? Has it the proper motive power to get men and equipment to the fire as quickly as possible? The first ten minutes of a fire are the important ones from the standpoint of saving lives and property. Has the department a sufficient supply of good, sound, serviceable hose, ladders to reach any roof, and the necessary small equipment and tools?"

Value and Purpose of Inspections

Inspection Work Done by Firemen is a Powerful Factor in Reducing Loss of Life and Property

By Geo. W. Booth
Chief Engineer,
National Board of Fire Underwriters

FIRE departments are organized to give citizens protection against loss of life and property by fire. While fire fighting must be their primary job, the most alert of these departments consider that their full measure of service to the citizens requires as much attention to preventing fires as to putting them out.

Intelligently made inspections are the backbone of effective fire prevention work. The average business man and property owner is not trained to recognize fire hazards and does not have a practical knowledge of fire fighting and the factors influencing the spread of fire, as does the experienced fireman.

The rear of a neighborhood store before and after a visit by a fireman on inspection. The accumulation of boxes and packing materials endangered adjoining homes as well as the store itself.

The purpose of fire department inspections may be outlined under seven general headings as follows:

1. *Correction of Hazards.* Persons who work among materials and situations which are hazardous often become negligent of their own safety, just as long periods without a fire produce over-confidence and an under-estimate of the fire danger. Firemen are constantly in contact with actual fires, and able to more accurately judge the hazard, and can point out and explain the hazardous conditions which need to be corrected.

2. *Maintenance of Fire Equipment.* Under normal conditions fire extinguishers, standpipes, and other fire protection equipment do not get frequent use. Routine inspections are necessary to make sure that they are in working order when the need arises. Here again members of the fire department are able to render a real service to the citizens by having them make sure that equipment is being properly maintained.

Safety to life of the occupants of a building may depend upon the effectiveness of the fire protection equipment. Many times such equipment makes the job of fire fighting much easier than it would be otherwise. A pail of water will easily put out a small fire, which allowed to burn for five minutes would tax the efforts of the fire department.

3. *Prevention of the Spread of Fire.* The general public has little appreciation for the great value which structural features, such as stair and elevator enclosures, fire doors, and fire partitions have in preventing the rapid spread of fire. Members of the

Imagine trying to run out the hose shown in the first picture in case of fire! The center picture shows a chimney on a wooden base found by an inspector. It took fire the day after the picture was taken. The third picture shows an uncovered barrel of rubbish containing oil-soaked material, placed directly beneath a stairway. Regular inspection work finds and corrects such conditions.

fire department become familiar with the importance of these items through their contact with actual fires and should take advantage of every opportunity to explain them to owners and occupants.

4. *Maintenance of Fire Exits.* As the first duty of firemen on arriving at a fire is to assist people to escape from the building, if necessary, exit facilities are a vital concern to the fire department as well as to the occupants of the building. An exit which is perfectly satisfactory for ordinary use may be of little or no value under fire conditions.

5. *Enforcement of Fire Laws.* In many communities the checking up on the compliance with laws and regulations dealing with the subjects discussed above is a duty of the fire department. Whether or not this duty is specifically required of a fire department, every fireman should be able to recognize violations so that they may be reported to the proper authority.

6. *Teaching Fire Prevention.* Owners and occupants of buildings need to be impressed with the fact that the fire department is maintained for the prevention and control of fires and it is to their advantage to call the fire department immediately in case of fire. Citizens should be encouraged to seek the advice of the fire department in connection with problems of fire prevention and protection. By such educational efforts firemen doing inspection work can better the standing of the fire department in the community.

7. *Learning Conditions in Building.* Maximum efficiency in the handling of fire fighting equipment requires a detailed knowledge of the building in which a fire is being fought. Knowledge of its fire hazards, its fire protection equipment, its structural features affecting the spread of fire, and its exit facilities is necessary for the safety of the firemen as well as for efficient handling of the fire to eliminate unnecessary loss of life and property.

Photos on this page by Blake Darling (Member N.F.P.A.)

Drums of calcium carbide stored under a leaky hose which may be seen in background. Calcium carbide and water produce acetylene, an explosive gas. All set for trouble!

Compressed Air Fire Alarm Signals

Air Systems Offer Means of Giving Distinct and Audible Call Signals in a Rapid Code

By Harry S. Smith
Fire Alarm Consultant

Mr. Smith has done considerable research on the operation and use of the various classes of fire alarms for small communities. This article was digested from the October, 1934, issue of the Municipal Signaling Journal, the official publication of the Associated Municipal Signal Services.

RESPONSIBLE town and fire department officials are becoming more and more aware of the importance of adequate and dependable fire alarm systems in their work of protecting life and property from fire in their communities.

Outside sounding devices used by volunteer fire departments are of two types, depending on the operation of the department. The first type is a code-sounding device where the location of the fire is indicated, and the second is non-code-sounding where an alarm is given and the firemen respond to the fire station to determine the location of the fire.

Devices that give loud and distinct coded signals so that most of the volunteers can respond directly to the fire are desirable. Systems that use compressed air to blow a whistle or horn have been found very satisfactory, and they have several advantages over electrically driven sirens. They give clear and audible signals in code to inform the volunteers where the fire is located. These blasts are produced more rapidly and effectively than is possible with sirens.

The most simple arrangement for sending out a code is to operate the whistle manually by a key or push button. Or the signals may be coded with standard break wheels. Where fire alarm box systems are the "automatic" type, the whistle may be operated automatically by a repeating device actuated from the box circuit.

The main parts of a compressed air alarm system are the whistle, the air tank, and the air compressor which is run by an electric motor to keep the air in the tank at a given pressure. The fact that there is a constant reserve of air pressure if the electric power should be cut off for any reason, gives this system advantages over electrically driven sirens.

The cost of a compressed air installation has prevented some of the smaller towns from installing this system, and an insufficient appropriation has caused some larger communities to accept an air installation which does not fully meet their requirements. When sufficient funds are not available to contract for the purchase and installation of a system, it is possible to obtain all the necessary equipment in the open market and have the work done by local men.

I have in mind a thoroughly satisfactory compressed air system which was installed by local firemen in their spare time. In addition to materially reducing the total cost of the installation, quick servicing is assured in case of trouble due to the familiarity of the men with their equipment.

When the installation of an air whistle is being considered the first step should be the selection of a suitable location in order that signals will be heard distinctly throughout the district. In very hilly sections it is essential to avoid a location that is too high because the signal may not be loud enough in the lower sections. While it is important that the whistle be placed above the surrounding buildings and trees, nothing is gained by placing it above that point.

The signal may not be heard distinctly under all weather conditions at a greater distance than approximately one mile from the whistle. Where a larger area must be covered it will be more satisfactory to have two units properly situated than to try to obtain good results with a single unit. Although a double installation will increase the cost of a system, the advantages gained will probably be found to justify the additional expense.

Some points in favor of two separate units are: the adaptability of smaller compressors, reservoirs and whistles which cause less annoyance to citizens in the immediate vicinity, and if the whistles are on separate circuits and one should fail the other would still function.

Whistles are often installed on the top of the engine house tower with the air tank (reservoir) in the basement. Where this is done, special precautions need to be taken to prevent freezing of the moisture which condenses at the valve because of the difference between the temperature of the air in the reservoir and the temperature of the valve. The difficulty may be overcome by placing the tank outside the station such as in a lean-to shed, or in the tower near the whistle, or some such location where the air in it will be at the same temperature as the valve.

The compressor, switch, governor, and check valve should be covered and kept above freezing temperature for proper operation. The length of pipe from compressor to reservoir is not important as long as the condensed moisture drains into the reservoir. A relief valve should be installed in the pipe to protect the motor in case the governor fails to cut off.

The size of the reservoir is governed by the maximum number of blasts needed and the pressure at which air is to be stored. The type of horn or whistle used and the length of blast also affect the size of the tank. The practice has been to store air at pressures of 100 to 125 pounds.

In compressed air systems of the coded type the length of blasts should not be less than ½ second or more than 1½ seconds, with silent inter-

vals of 1 to 1½ times the length of blast. Where street boxes are in use sufficient air should be stored for two complete signals of four rounds each from any box.

The most common types of whistles and horns in use for producing audible signals are the chime whistle, the diaphragm horn, and the horn using an oscillating piston. Of these the piston horn consumes the least amount of air, but its tone is unpleasant and the piston often sticks because it is hard to keep it lubricated. The diaphragm horn has been developed to a high efficiency and has recently become quite popular. The chime whistle has a mellow tone requiring practically no attention and has been quite generally used, but it uses more air than other types.

Big Fires and Dead-End Mains

Answers to Topics Suggested for Discussion at Company Meetings During the Past Month

THE questions suggested for discussion during January covered topics of great practical interest to fire companies and departments. Correspondence indicates that these questions are being widely used in active and progressive companies and that increased enthusiasm and interest of members is being developed by them.

Those who have been readers of VOLUNTEER FIREMEN of long standing should have had no trouble with Question No. 6, as the answer to this was largely given in an article on dead-end mains which appeared in the issue of November, 1933.

For the questions submitted for use during the coming month we are again indebted to the Board of Fire Marshals of the Delaware County Volunteer Firemen's Association of the State of Pennsylvania.

5

Q. Make a list of the five places in the territory served by your company where the biggest fires can occur.

Problem Questions
FOR FEBRUARY

Suggested for discussion at company and department meetings this month

7

What are the two commonest causes of wrecks of fire apparatus?

8

When is a ladder truck necessary for effective fire protection?

Watch for the answers in the next issue of VOLUNTEER FIREMEN

A. The exact answer given to this question will, of course, be governed by local conditions. Some of the following occupancies, however, should be considered in preparing the above list for any company: Lumber yards, bulk oil storage stations, large institutional buildings, churches, schools and public buildings, large industrial plants, large retail stores, warehouses, exposition buildings, piers and wharves, and armories.

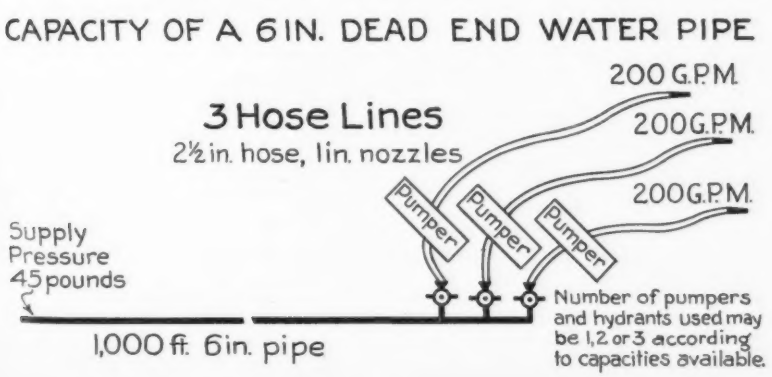
6

Q. The water pressure at a certain point of a town's water system where good quantities are available is 45 pounds static. From this point is a 6 in. dead-end main 1,000 ft. long on the end of which is a hydrant. Approximately how many good 2½ in. hose lines may be obtained from this hydrant, assuming adequate pumper capacity, and the use of 1 in. nozzles?

A. Approximately three good streams. Assuming 1 in. nozzles, good streams would involve flows of water equivalent to about 200 gallons per minute each. For practical results at least 20 pounds pressure is desirable at the hydrant for suction. The flow must therefore not be so great that the pressure loss in 1,000 ft. of 6 in. pipe will be much more than 45 minus 20, or 25 pounds.

The flow must be in multiples of 200 G.P.M. With 200 G.P.M. (1 stream) we can determine the friction loss as 2.7 pounds per 1,000 ft., either from tables, by calculating the loss from standard hydraulic formulae, or from trying it out in actual practice. With 400 G.P.M. (2 streams) the friction loss in 1,000 ft. would be 9.5 pounds; with 600 G.P.M. (3 streams) it would be 20.2 pounds; with 800 G.P.M. (4 streams) it would be 34.3 pounds. The practical limit is therefore better than 3 and less than 4 streams.

These calculations assume a level stretch of ground; if the pipe goes up or down grade, a further allowance must be made.


CAPACITY OF A 6 IN. DEAD END WATER PIPE
200 G.P.M.
3 Hose Lines
2½ in. hose, 1 in. nozzles
200 G.P.M.
200 G.P.M.
Pumper
Pumper
Pumper
Supply Pressure 45 pounds
Number of pumpers and hydrants used may be 1, 2 or 3 according to capacities available.
1,000 ft. 6 in. pipe

Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section of the National Fire Protection Association

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch Street, Boston, Massachusetts, U. S. A. (Copyright 1935.)

Volume 2 **February, 1935** Number 2

Credit Where It Is Due In the last issue we credited to Chief J. W. Just an article on "Fire Stream Calculations". Chief Just sent this to us along with some other data he had prepared and we assumed he was its author. Chief Just, however, hastened to correct us in this and tell us that the article was prepared by Raymond Schuermann, engineer of the Missouri Inspection Bureau. We are therefore pleased to give credit where it is due for a useful and well-written article.

Chamber of Commerce Co-operation Both the Chamber of Commerce of the U. S. and the Canadian Chamber of Commerce are actively co-operating with fire organizations in nationally sponsored campaigns to make cities and towns safe from fire. Just recently the Canadian Chamber addressed its member boards and chambers in the smaller communities urging them to take an active interest in their local fire company.

Both chambers sponsor a contest among their member local chambers to promote fire safety in their respective communities and made awards to cities in the several population groups. This gives small communities an opportunity to compete on an equal basis with other communities of their own size. To the winners in these contests fine trophies are awarded each year, and the winning cities gain a desirable reputation as a result of this recognition.

If your local chamber of commerce or board of trade is a member of either the U. S. or Canadian Chamber, it may enter these annual contests. Members of fire companies would do well to check up with their local chamber and make sure that their town or city is properly entered. Your local chamber can get entry blanks and particulars from the national chambers.

The Fire Service Extension Committee The U. S. Chamber Contest is sponsored by its Fire Waste Council. The council is also doing work through its Fire Service Extension Committee which is of special benefit to the fire companies of small communities. This committee has been for several years promoting the organization of firemen's short courses, state and regional drill schools and similar efforts under the chairmanship of Clarence Goldsmith of Chicago. The impressive list of fire school activities presented in the January issue of VOLUNTEER FIREMEN testifies to the success of the committee's continuing efforts.

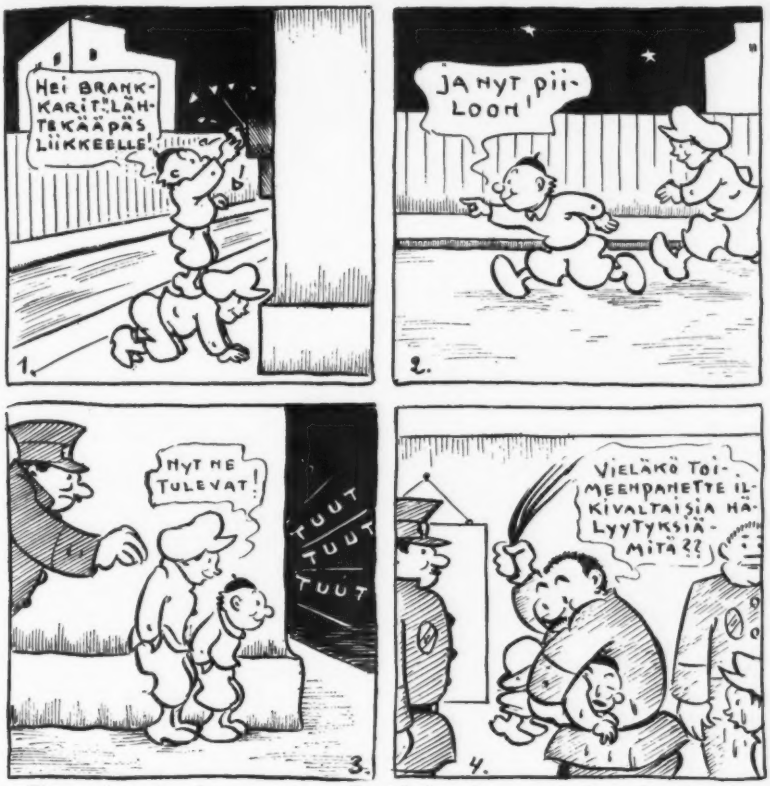
Renews Membership With 50 Enrolled The nice things which many correspondents have said about VOLUNTEER FIREMEN and the Volunteer Firemen's Section are of course appreciated. Some of these comments made in conjunction with applications for and renewals of membership are quoted on the opposite page.

The fire department of Franklin, N. H., enrolled as a member of the section last March with 23 men enrolled. We take it as a special tribute therefore that in sending in their renewal this year we are asked to enroll 50 men.

This renewal makes the Franklin Department the one with the largest enrollment of any member of the section, a distinction up to now shared by the fire departments of McAllen, Texas, and Ware, Massachusetts, each with 47 members.

New Members In January Fifteen Volunteer fire departments with 312 firemen have affiliated with the Volunteer Firemen's Section of the N.F.P.A. since the last issue. Thirty-four departments with 771 men whose memberships expired during the month have already renewed. We believe it is a generous tribute to the worth of this magazine when almost every department that subscribed last year renews its membership. The fifteen new department members listed below bring the total individual membership to 7,631:

Wood River Fire Department, Wood River, Illinois.
Burlington Fire Department, Burlington, Kansas.
Rescue Hose Company, Annapolis, Maryland.
Howard County Volunteer Firemen's Association, Inc., Ellicott City, Maryland.
Hart Fire Department, Hart, Michigan.
Richville Community Fire Association, Richville, Michigan.
Nehawka Volunteer Fire Department, Nehawka, Nebraska.
Bogota Fire Department, Bogota, New Jersey.
Haledon Fire Company No. 1, Haledon, New Jersey.
Atlantic County Firemen's Association, Mays Landing, New Jersey.
Grand Boulevard Fire Department No.1, Schenectady, New York.
Waynesburg Volunteer Fire Company, Waynesburg, Pennsylvania.
Wagner Volunteer Fire Department, Wagner, South Dakota.
Perrytown Volunteer Fire Department, Perryton, Texas.
Enosburg Falls Fire Department, Enosburg, Vermont.



The words in the above cartoon are Finnish, but since we also have the false alarm pest, we can pretty nearly guess what is being said. From *Palovartija*, journal of the Fire Protection Association of Finland.

What Members Say . .

Brief comments from letters received in connection with applications or renewals of membership in the Volunteer Firemen Section.

"The mass of information contained in your timely and instructive magazine, VOLUNTEER FIREMEN, should be an asset to every volunteer fire fighting unit it reaches."—*George Tonini, Volunteer Fire Department, Portola, California.*

"The boys sure appreciate these magazines and can hardly wait for the new numbers."—*E. L. White, Chief, Barstow Fire District, Barstow, California.*

"We are very happy to have joined up with an organization such as the National Fire Protection Association, and we find very interesting data and ideas in the VOLUNTEER FIREMEN."—*Phil Fisher, Jr., Secretary, Chemical Engine Co., No. 1, Inc., St. Remy, New York.*

"We have been receiving VOLUNTEER FIREMEN ever since our department joined the Volunteer Section of your organization, and we like it very much. We hope the magazine will continue to grow throughout its lifetime."—*James L. Malone, Asst. Secretary, Fire Dept., Carthage, Texas.*

"As all our members are anxious to learn about the game of fire fighting, they are looking forward to the coming issues."—*Joseph B. Gavin, Secretary, Jenkins Township Volunteer Hose Co. No. 1, Pittston, Pa.*

"Your publication was GOOD last year, and we received much valuable information—may it be even better this year."—*Winfield S. Boerckel, Jr., Secretary, Fire Department, Valley Stream, New York.*

MEMBERSHIP PLAN

Volunteer Firemen's Section National Fire Protection Association

WHERE twenty or more firemen in a volunteer company or department affiliate with the Volunteer Firemen's Section the cost is 50 cents a year *per man*. Each fireman will receive one copy of VOLUNTEER FIREMEN, the monthly journal of the Volunteer Firmen's Section, mailed regularly to his home address. The company or department automatically becomes a member of the National Fire Protection Association and is entitled to full privileges of membership. All the literature regularly issued to N.F.P.A. members is mailed to headquarters of the company or department.

Membership may be applied for by one member of the company or department collecting 50 cents for each of the 20 or more members and making a single remittance for the group, or the company or department may take a membership for its men and make a single remittance from the company or department treasury.

Companies With Less Than Twenty Members

Because of the large amount of material mailed to members, not less than $10.00 can be accepted from any company or department for membership dues. In the case of companies or departments with less than twenty men this means that the cost divided among them will be slightly higher per man. Of course, some such companies or departments may prefer to make a single remittance of $10.00 from the company or department treasury. In other cases a few interested citizens, not members of the company or department, may be glad to contribute 50 cents apiece to make up the required minimum of twenty, so that the members may secure the rate of 50 cents per man.

These companies or departments have full privileges of N.F.P.A. membership as above, and each member receives the monthly magazine, VOLUNTEER FIREMEN, at his home.

Shuredry
SALVAGE COVERS
Reduce WATER DAMAGE & INSURANCE RATES

SHUREDRY is the cover that fire chiefs all over the country have endorsed for superior service.
Made of our special process chemically treated canvas they resist both heat and cold. SHUREDRY covers will not crack or split on your storage shelves — easy to handle — give better service.

Address our plant nearest you for full information and prices.

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

FIRE HOSE COUPLINGS

National Standard

A new publication describing the dimensions and other characteristics of National Standard fire hose couplings has recently been prepared by the N.F.P.A. It includes data on small (1½ in.) hose couplings and also the standards for fire department hose connections for sprinkler and standpipe systems.

This makes a 12-page pamphlet which will be sent to any reader of VOLUNTEER FIREMEN on request to

National Fire Protection Association

60 Batterymarch Street,
Boston, Massachusetts, U. S. A.

Pyrene Prize Letter Contest

This Month's Awards for Best Letters on Fires Put Out with Fire Extinguishers

FIRST PRIZE — $10.00

JAS. B. HENLEY, *Asst. Chief*,
Volunteer Fire Dept., Keewatin, Minn.

Print Shop and Post Office Saved

"One winter day a fire started in the gasoline engine pit of a print shop located in the basement of a store. The printer ran towards the alarm box shouting 'Fire-Gasoline'. I heard him from where I was in a hardware store located in the center of the three-block business district.

"A two-man chemical sled which I had designed was a part of the equipment of our volunteer fire department and was kept at the hardware store. Another firemen and I grabbed it and responded to the fire. In three minutes we had the fire entirely out with the use of two soda-acid extinguishers. The owner then bought these extinguishers that saved the business. This was 27 years ago, and I believe the same two extinguishers are in that building today."

SECOND PRIZE — $3.00

H. E. ROWEN,
Hose Company No. 1, Stanhope, N. J.

Put Out 12,000-Gallon Pentane Fire

"Last spring a pump located over a 12,000-gallon tank of pentane, a liquefied natural gas much more volatile than gasoline, blew a gasket. The resulting pool of pentane was fired, probably by a static spark.

"Employees partly checked the fire with a carbon tetrachloride extinguisher, but the flames were too violent for the gas blanket to hold. The pipe lines and tank were cooled with soda-acid streams to hold down vaporization.

"Our volunteer company (Member N.F.P.A.), arrived and smothered the pentane fire with a foam extinguisher, and cooled down the steel work and balance of the fire with water from their booster."

THIRD PRIZE — $2.00

JOHN T. DONEY, *Asst. Chief*,
Fire Brigade, Macleod, Alberta, Can.

Ten Extinguishers Better Than Hand Pump

"Before water mains were laid in Macleod which was the stopping place and subsequently headquarters of the Northwest Mounted Police in their historic march overland from Winnipeg in 1874, the fire fighting apparatus consisted of a hand pump belonging to the police and store-owned 2½-gallon soda-acid extinguishers.

"In February 1903, fire, caused by an overheated stove pipe, broke out in the attic of the Customs House which is on the river bank about 80 ft. above water level. The police soon arrived with their pump, chopped a hole in the ice, and with relays of citizens in back-breaking work managed to get water through the nozzle. The stream was ineffective and the call went out for hand extinguishers. About ten of these were produced and in a short time the fire was under control. The amazing thing was that some of the extinguishers had not been freshly charged in years, yet not one of them failed."

HONORABLE MENTION

BEN MCCLOSKEY, *Chief*,
Volunteer Fire Dept., Wing, N. D.

D. W. SUTLIFFE, *Secretary*,
Hose Company No. 4, Devon, Conn.

B. F. SIMONS, *Secretary*,
Fire Department, Fredonia, N. Y.

SEND us your story of how an approved fire extinguisher of any make has been used to save life or property and get in line for an award next month for one of the cash prizes being offered in this contest co-operatively by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN. Until further notice the following cash prizes will be awarded each month: First Prize, $10.00; Second Prize, $3.00; Third Prize, $2.00. The contest will be judged by the engineering staff of the National Fire Protection Association and the editors of VOLUNTEER FIREMEN.

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where any approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experiences.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 15th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letter to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

A champion always looks and acts the part

A glance tells you it's completely new and every inch a Champion. From the Suction Inlet in front to the power drive in rear it's brand new with features of engineering design and construction NEVER BEFORE USED IN A FRONT MOUNTED PUMP. The Champion is a distinctly new and distinguished contribution by our ingenious engineering staff to the Fire Dept. field. Instructed to build the very finest pump possible, our engineers conceived and created the Champion—a totally new fire pump.

Its trim, businesslike, compact appearance reflects the caliber and performance and stamina of a Champion. Simplicity of design plus masterful engineering practice coupled with manufacturing methods of unparalleled efficiency have resulted in a fire pump of unrivalled excellence. The Champion mounts snugly against the front end—the clutch lever and other controls are all out in front. Notice the sweeping curves of the waterways—water slides into the new pump and out with minimum friction.

If you would take apart a New Champion, study and examine the interior construction and calibrate, or use a micrometer, you would say here is workmanship to 1/1000 of an inch, in some parts 1/10000. You would find a solid bronze impeller wonderfully voluted; you would find SEALED IN New Departure Ball Bearings; you would find surfaces finished like glass for smoothness; you would find parts of Chrome Vanadium Nickel Steel, many times the tensile strength of ordinary steel.

THE CHAMPION BRINGS A NEW THRILL TO FIRE FIGHTING

There's a new thrill in store for Chiefs who have never fought fire with a Champion.

Words cannot tell all a Champion can do; we just wish every Fire Chief could put one through its paces.

Here is a Champion he can drive 24 HOURS at HIGH PRESSURE—without the least thought or worry about the pump. It works with perfect smoothness because it has NO GEARS! And because the impeller is WATER BALANCED the higher the PRESSURE the easier the end thrust. Cannot overheat any motor—auxiliary water line from pump to motor block bypasses cool water around motor constantly.

New Departure Ball Bearings have 3 to 5 years of lubrication sealed in. The Multiple Disc Clutch engages the motor with a 120 h.p. grip—as soft as velvet. Believe-it-or-not, but should the pump get out of alignment IT DOESN'T MATTER.

A super-performance made possible in Champion alone, by the new, FLOATING DIRECT DRIVE TO THE IMPELLER.

It is built for the protection of your community as no other fire pump was ever built! It has no treacherous jaw clutch to worry about. No grinding gears to run dry. Bronze Volute Impeller—Safety Primer. Can be mounted on any chassis, old or new. Easily attached. Yours anytime for 30 days' free try-out.

Champion Fire Pump
Type F5
Completely Equipped
$339.20

Pumps 650 GPM from hydrant
Pumps 500 GPM from suction
Gauge pressures up to 300 lbs.

Will play THREE to FOUR STREAMS from outlets.

650 Gallons per Minute! MAKE US PROVE IT!

A Friendly Firm ~ In Business Since 1908

W. S. DARLEY & CO.

THE BEST IN FIRE DEPARTMENT EQUIPMENT
2810 Washington Blvd. CHICAGO

Just off the press . . . .

The Volunteer Fire Company

By William Draper Brinckloe

CONTENTS

I.
Let's Have a Fire Company

II.
Buying the Engine

III.
Hose and Helmets

IV.
Chiefs and Chaplains

V.
Building the Engine-House

VI.
When the Siren Sounds

VII.
Dollars and Cents

VIII.
Brass Buttons

IX.
Safety First

X.
Be it Enacted:

XI.
Getting Together

XII.
Fire Prevention

XIII.
The Private Fire Company

XIV.
Books and Bulletins

The author of this new book describes himself as "an old volunteer fireman from a very old company." He sets forth his dearly bought experience to help his brother firemen. Mr. Brinckloe was the leading spirit in the organization of the Volunteer Firemen's Section. His untimely death prevents his participation in the Section's development, but his forceful character, good judgment and experience live vividly in the pages of this book. Written for the use of volunteer fire companies, private fire departments, farmers' organizations, civic organizations, women's clubs, firemen's schools, insurance men and citizens generally, it is not in any sense a textbook, but an intensely interesting story of volunteer fire departments and volunteer firemen. A dozen leading fire protection engineers who reviewed the manuscript for technical accuracy all reported they found the text as interesting reading as a good novel and could not put it down until they had read every page.

Mr. Brinckloe, as President of the Easton, Maryland, Fire Department, the Maryland State Firemen's Association and other fire fighting organizations, a member of the American Institute of Architects, the American Society of Agricultural Engineers, the American Legion and other organizations, and a writer of national reputation, presents this story, which is at once fascinating reading and technically accurate. The book is sponsored by the Committee on Farm Fire Protection of the National Fire Protection Association which has reviewed it and finds all its recommendations consistent with the official standards of the Association.

The book is an attractive cloth bound volume of 168 pages with 24 illustrations of volunteer fire department apparatus, equipment and fire fighting methods. The book is published by the National Fire Protection Association at the nominal charge of $1 per copy postpaid.

ORDER FORM

National Fire Protection Association **Date** . . . . . .

60 Batterymarch St., Boston, Mass.

Please send me . . . . . copies of your new book, The Volunteer Fire Company, for which $ . . . . . ($1.00 per copy) is enclosed.

Name . . . . . .
(Please Print)

Address . . . . . .

Printed in U. S. A.